

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-44 (canceled).

Claim 45 (previously presented): A dimming device comprising a layered structure including a first layer and a second layer, such that a light reflectance of the first layer changes in response to an external stimulation, wherein,

the first layer contains a first material whose optical characteristics change in accordance with a concentration of a specific element, and

the second layer contains a second material capable of containing the specific element, the second material releasing or absorbing the specific element in accordance with the external stimulation.

Claim 46 (previously presented): The dimming device of claim 45, wherein the element is hydrogen, and the first material is able to transition between a light reflecting state and a light transmitting state in accordance with a hydrogen concentration.

Claim 47 (previously presented): The dimming device of claim 46, wherein the first layer diffuse-reflects light when the first material is in the light reflecting state.

Claim 48 (previously presented): The dimming device of claim 47, wherein the first material is particles.

Claim 49 (previously presented): The dimming device of claim 48, wherein a diameter of the particles is equal to or greater than 350 nm and equal to or less than a thickness of the first layer.

Claim 50 (previously presented): The dimming device of claim 48, wherein the first layer contains colored particles having a visible light absorbing ability, the particles being adsorbed to the colored particles.

Claim 51 (previously presented): The dimming device of claim 46, wherein the second layer contains a hydrogen storage material.

Claim 52 (previously presented): The dimming device of claim 51 operating in a region where respective hydrogen equilibrium pressure-composition isotherms (PTC characteristic curves) of the first layer and the second layer are substantially flat.

Claim 53 (previously presented): The dimming device of claim 52, wherein, in the region where the PTC characteristic curves are substantially flat, hydrogen equilibrium pressures of the first layer and the second layer are about the same.

Claim 54 (previously presented): The dimming device of claim 53, wherein a range of hydrogen storage amount of the second layer in the region where the PTC characteristic curve is substantially flat encompasses a range of hydrogen storage amount of the first layer in the region where the PTC characteristic curve is substantially flat.

Claim 55 (previously presented): The dimming device of claim 45, wherein the second material releases or absorbs the specific element through exchanges of electrons.

Claim 56 (previously presented): The dimming device of claim 45, wherein the second material releases or absorbs the specific element in response to light irradiation.

Claim 57 (previously presented): The dimming device of claim 56, wherein the second layer contains a material having a photocatalytic ability.

Claim 58 (previously presented): The dimming device of claim 45, comprising a pair of conductive layers for forming an electric field for causing ions of the specific element to move from the second material to the first material, or from the first material to the second material.

Claim 59 (currently amended): The dimming device of claim 58, wherein the first and second layers are positioned between the pair of conductive layers.

Claim 60 (previously presented): The dimming device of claim 58, wherein the first layer has conductivity, and functions as one of the pair of conductive layers.

Claim 61 (previously presented): The dimming device of claim 58, wherein the second layer has conductivity, and functions as one of the pair of conductive layers.

Claim 62 (previously presented): The dimming device of claim 45, wherein the second layer requires a light transmitting ability.

Claim 63 (previously presented): The dimming device of claim 62, wherein at least one of an upper face and a lower face of the first layer has bumps and dents, and the first layer transitions between a state of diffuse-reflecting light and a state of transmitting light, further comprising a light absorbing layer for absorbing light having been transmitted through the first layer.

Claim 64 (previously presented): The dimming device of claim 45, wherein the second layer requires a visible light absorbing ability.

Claim 65 (previously presented): The dimming device of claim 64, wherein at least one of an upper face and a lower face of the first layer has bumps and dents, and the first layer transitions between a state of diffuse-reflecting light and a state of transmitting light, and the second layer is disposed opposite from a light incident face of the first layer.

Claim 66 (previously presented): The dimming device of claim 45, wherein at least one of the first layer and the second layer has a multi-layer structure.

Claim 67 (previously presented): A dimming device comprising a dimming layer whose light reflectance changes in response to an external stimulation, wherein, the dimming layer contains a first material whose optical characteristics change in accordance with a concentration of a specific element, the first material being particles.

Claim 68 (previously presented): The dimming device of claim 67, wherein the first material is able to transition between a light reflecting state and a light transmitting state in accordance with the concentration of the specific element.

Claim 69 (previously presented): The dimming device of claim 68, wherein the dimming layer diffuse-reflects light when the first material is in the light reflecting state.

Claim 70 (previously presented): The dimming device of claim 67, wherein a diameter of the particles is equal to or greater than 350 nm and equal to or less than a thickness of the dimming layer.

Claim 71 (previously presented): The dimming device of claim 67, wherein the dimming layer contains colored particles having a visible light absorbing ability, the particles being adsorbed to the colored particles.

Claim 72 (previously presented): The dimming device of claim 67, wherein the specific element is hydrogen.

Claim 73 (previously presented): A dimming device comprising a dimming layer whose light reflectance changes in response to an external stimulation, wherein the dimming layer contains a first material whose optical characteristics change in accordance with a concentration of a specific element, and contains a second material capable of containing the specific element, the second material releasing or absorbing the specific element in accordance with the external stimulation, wherein the first material is particles.

Claim 74 (previously presented): A display device including a plurality of pixels, each of the plurality of pixels having:
a first layer containing a first material whose optical characteristics change in accordance with a concentration of a specific element;
a second layer containing a second material capable of containing the specific element, the second material releasing or absorbing the specific element upon application of a voltage;
and
a pair of electrodes for applying the voltage to the second layer,
wherein a light reflectance of the first layer changes in response to the voltage.

Claim 75 (previously presented): The display device of claim 74, wherein the first material is able to transition between a light reflecting state and a light transmitting state in accordance with the concentration of the specific element.

Claim 76 (previously presented): The display device of claim 75, wherein the first layer diffuse-reflects light when the first material is in a light reflecting state.

Claim 77 (previously presented): The display device of claim 76, wherein the first material is particles.

Claim 78 (previously presented): The display device of claim 76, wherein at least one of an upper face and a lower face of the first layer has bumps and dents.

Claim 79 (previously presented): The display device of claim 77, wherein the first layer further contains colored particles, the first material being adsorbed to the colored particles.

Claim 80 (previously presented): The display device of claim 76, wherein the first layer transitions between a state of diffuse-reflecting light and a state of transmitting light, and the second layer requires a light transmitting ability,

further comprising a light absorbing layer for absorbing light having been transmitted through the first layer and the second layer.

Claim 81 (previously presented): The display device of claim 76, wherein the first layer transitions between a state of diffuse-reflecting light and a state of transmitting light, the second layer having a visible light absorbing ability, and

the second layer is disposed opposite from a light incident face of the first layer.

Claim 82 (previously presented): The display device of claim 74, wherein the second layer is disposed on a light incident side of the first layer, and functions as a color filter.

Claim 83 (previously presented): The display device of claim 74, wherein the specific element is hydrogen, and the second layer contains a hydrogen storage material.

Claim 84 (previously presented): The display device of claim 74, wherein the second material releases or absorbs the specific element through exchanges of electrons.

Claim 85 (previously presented): The display device of claim 74, wherein the first layer has conductivity, and functions as one of the pair of electrodes.

Claim 86 (previously presented): The display device of claim 74 which is a reflection type display device.

Claim 87 (previously presented): The display device of claim 79 further comprising a backlight.

Claim 88 (previously presented): The display device of claim 74, wherein the first layer transitions between a state of mirror-reflecting light and a state of transmitting light, further comprising a backlight.